JACKPILE MINE RECLAMATION ENVIRONMENTAL IMPACT STATEMENT: SOCIOECONOMIC BASELINE ANALYSIS SECTION

MAY 1983

Council of Energy Resource Tribes

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1.0 INTRODUCTION

The Pueblo of Laguna is one of the newest of the southern pueblos, having been settled sometime prior to its discovery by the Spanish explorer Cubero in 1689. The Pueblo was founded by people from the Acoma, Zuni, Zia, and Oraibi (Hopi) tribes. The original settlement occurred at the present-day site of the Village of Laguna. A rapid growth in population and a shortage of farmland at Laguna led to the establishment of the other villages which today constitute the Pueblo of Laguna: Paguate, Encinal, Seama, Mesita, Paraje, Casa Blanca, and New Laguna (Pueblo Planning Commission 1978, pp. 8-9).

The Pueblo of Laguna is located 30 miles west of Albuquerque on Interstate 40 (see figure 1-1). The reservation encompasses over 700 square miles of arid land. The majority of the reservation lies within Cibola County,* with parts in Bernalillo and Sandoval Counties. Land on the reservation is typical of the arid southwest. Much of the land is suitable for dry land farming. The Rio San Jose and Rio Paguate run through the reservation, making some land suitable for irrigation.

From 1953, the Anaconda Copper Company operated the world's largest open pit uranium mine on the Pueblo of Laguna's reservation. The Jackpile uranium mine has had a dramatic influence on the Pueblo of Laguna.

Hundreds of Lagunas** were employed by the mine and gained valuable skills while earning a well-above-area-average wage during the past 28 years. The tribal government also benefitted greatly from the royalty payments paid by Anaconda.

On 18 July 1980, the Anaconda Corporation announced the mine's early closure. This report describes current baseline conditions, with an emphasis on the pueblo's economic base and community facilities and likely employment opportunities on and off the reservation. This report is a description of the current baseline conditions of the Pueblo of Laguna and an impact assessment of the mine's closure. The employment history of the mine and its recent layoffs largely shape the current baseline conditions. Therefore, extensive discussion of the mine's past role and the conditions likely in its absence are presented.

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*Cibola County was created by the New Mexico State Legislature in June 1981 from what was previously the western two-thirds of Valencia County. Because of Cibola County's recent origins, most references in this report will be to Valencia County, as little to no data yet exist for Cibola County.

**The term "Lagunas" refers to all members of the Pueblo of Laguna.

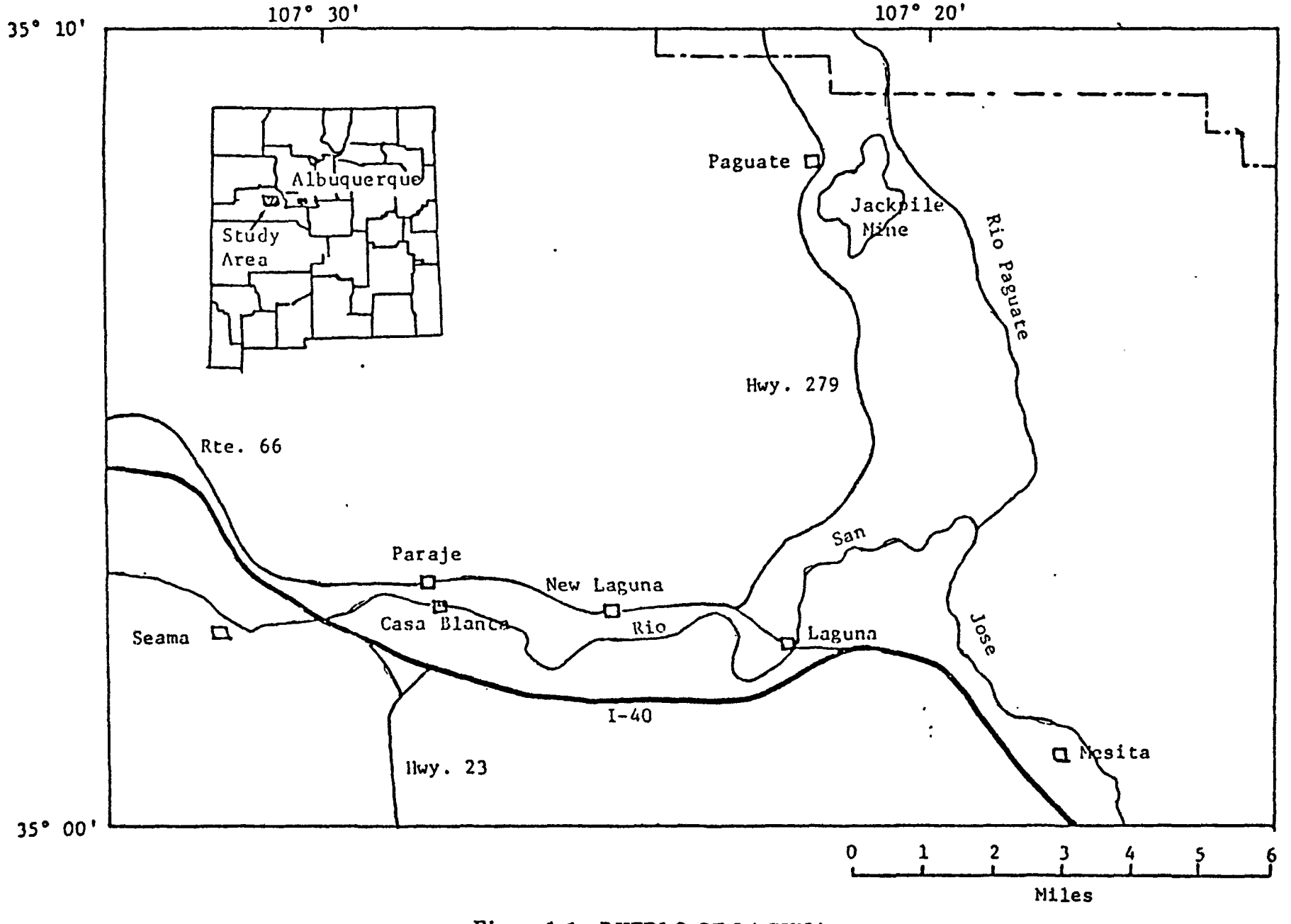

Figure 1-1. PUEBLO OF LAGUNA

2.0 POPULATION

Population data, where they exist, vary greatly from one source to another. Population figures for 1970 vary as much as 200% in various government reports. Historic data are also highly suspect, as data by individual pueblo were not kept prior to 1970. As a result, population figures should be considered as indicative of trends and not as absolute figures.

2.1 TOTAL POPULATION

Table 2-1 presents Census data for the Pueblo of Laguna and Valencia County from 1960 to 1980. As the figures in table 2-1 indicate, the Pueblo of Laguna's population grew at an average annual rate of 3.4% from 1970 to 1980. The Pueblo's growth rate lagged that of Valencia County by 16% for the decade.

Table 2-1. POPULATION OF THE PUEBLO OF LAGUNA AND VALENCIA COUNTY: 1960, 1970, 1980

	1960[a]	1970[a]	1980[b]	Percent Increase 1970-1980
Pueblo of Laguna	N/A	2,579	3,453	34%
Valencia County	39,100	40,576	60,853	50%

[a]U.S. Department of Commerce, Bureau of Economic Affairs, Census of the Population 1960, 1970. Washington, D.C.: U.S. Government Printing Office, 1962, 1972.
[b]Advance Counts: New Mexico. 1980.

The Bureau of Indian Affairs, Southern Pueblos Agency, reported a population of 6,059 in 1978 and 6,406 in 1981, for the Pueblo of Laguna. Local estimates place the Pueblo's population between 6,000 and 7,000 persons.*

The Census figures are very likely low due to an historically low response rate to Census data requests, while the Southern Pueblos Agency figures are likely high as they include Lagunas who are on the tribal rolls but do not live on the reservation. Although no definitive population figures exist, it can be seen that the Pueblo has a fairly stable population, growing about 2% annually.

The Village of Laguna is the largest of the seven villages comprising the Pueblo. Laguna had over 25% of the total Pueblo's population in 1978. Population by village is shown in table 2-2. Paguate had the second largest village population in 1978; this was in part

*Personal communication with Raymond Goetting, Pueblo of Laguna Tribal Consultant, Laguna, New Mexico, 22 September 1981.

because of a large number of Anaconda workers living in work camp housing located adjacent to the mine in Paguate. Paguate's population is significantly lower since the layoffs at Anaconda in February 1981. No village data exist beyond 1978.

Table 2-2. POPULATION BY VILLAGE: 1978

Village	1978 Population
Laguna	1,565
Paguate	1,435
Seama	931
Paraje	758
Mesita	745
Encinal	333
Casa Blanca	292
	6,059

Source: Pueblo of Laguna Planning Commission, Pueblo of Laguna: Revised and Updated, Old Laguna, NM: Laguna Planning Commission, 1978, p. 13.

2.2 POPULATION CHARACTERISTICS

Table 2-3 shows the population by age and sex for 1981, according to the Southern Pueblos Agency. As the figures indicate, the Pueblo of Laguna has a young population. The median age in the Pueblo is under 20. However, this is almost two years older than the median age for the Pueblo of Laguna reported by the Southern Pueblos Agency in 1978 (AIDA 1979, p. 14). The low median age reflects a tendency for young people to leave the reservation after high school.

The average number of persons per household in 1970 for all pueblos was 4.6, compared to 3.9 for Valencia County.* The 4.6 average household size is considered representative of the Pueblo of Laguna, as evidenced by a 4.5 average household size reported from a 1980 survey of Jackpile employees (CERT 1981, p. 22). No other comparable data for the Pueblo of Laguna exist.

2.3 POPULATION PROJECTIONS

No published population projections exist for the Pueblo of Laguna. Future population growth on the reservation depends on the Pueblo's ability to provide employment opportunities to Lagunas who have been laid off by Anaconda and those who are graduating from high school and college. If area employment opportunities are

*Data provided by Robin Mewshaw, University of New Mexico Data Bank, 2 October 1981, telephone conversation.

Table 2-3. LAGUNA POPULATION BY AGE AND SEX: 1981

Age Group	Male	Female	Total
Under 15	982	932	1,864
15-24	791	774	1,565
25-34	524	524	1,048
45-54	304	375	679
55-64	121	178	299
Over 65	197	229	426
TOTAL	2,919	3,012	5,881

Source: U.S. Department of the Interior, Bureau of Indian affairs, Southern Pueblos Agency, "Population as of January 1, 1981," Southern Pueblos Agency population report, 1981.

increased, the Pueblo's population will likely continue at a steady population growth rate of 2-4% annually. This rate of growth would double the Pueblo's population in 18-35 years. If surplus employment opportunities at competitive wages exist, the Pueblo could also experience a return of many Lagunas who had relocated away from the Pueblo to be closer to their place of employment.

3.0 EMPLOYMENT AND INCOME

The Pueblo of Laguna's economic base has changed dramatically over the past 40 years, predominantly due to the presence of Anaconda's Jackpile Mine.* With the closure of the mine, the Pueblo's economic base is once again experiencing dramatic shifts. This chapter examines these changes by focusing on the employment and income components of the Pueblo's economy for three time periods: premine, preclosure, and postclosure. The current baseline conditions are described in the "postclosure" sections of this chapter.

3.1 EMPLOYMENT

3.1.1 Premine (pre-1952)

From the establishment of the pueblo at Old Laguna before the first Spanish explorers, to the early 1950s and the start-up of the Jackpile Mine, the economy was based primarily on dry land farming. Early trade was likely limited to barter. The Spanish explorers in the late 17th and early 18th centuries introduced sheep, horses, and new fruits and grains to New Mexico. These introductions expanded the early Pueblo's economy to include livestock and a more diversified agricultural crop.

During the 1800s, the Santa Fe Railroad obtained a right-of-way through the reservation. Many Pueblo workers found employment with the railroad, with some workers moving west with the railroad's construction. Other Pueblo workers remained in the area and became car inspectors, repairmen, and skilled craftsmen. After the railroad employment opportunities dwindled, dry land farming, sheepherding, and limited wage and salary employment provided the Pueblo with a standard of living barely above subsistence well into the 1900s.

3.1.2 Preclosure (1953-1980)

In 1952, the Anaconda Copper Company leased a large tract of reservation land near Paguate for uranium mining. Mining operations began in 1953 and included both surface and underground mining techniques. From the outset, a significant number of Pueblo workers were employed by Anaconda at a wage substantially above the area average.

Table 3-1 presents an employment summary for 1950, 1960, and 1970. The mine's influence is reflected in the dramatic increase in operatives and kindred workers, as well as the sharp decline in agricultural employment. The beneficial secondary effects of increased employment and income from the mine are reflected in the increases in clerical and kindred sales and service employment.

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*The majority of the material in this chapter, unless otherwise noted, is taken from the Council of Energy Resource Tribes' March 1981 report to the Pueblo of Laguna regarding economic strategies to mitigate the mine's closure: CERT 1981, pp. 3-16.

Table 3-1. PUEBLO EMPLOYMENT BY SECTOR: 1950, 1960, 1970

Sector	Year 1950[a] Percentage	1960[a] Employment	1970[b] by Occupation
Prof. tech. and kindred	2.5%	8.9%	8.7%
Farmers and farm managers	32.0	2.9	-0-
Managers and proprietors	0.6	1.5	0.6
Sales, clerical and kindred	2.5	9.3	10.5
Crafts, foremen, and kindred workers	7.3	12.9	15.6
Operatives and kindred workers	4.8	20.0	35.8
Private household workers	6.1	7.1	3.9
Service workers	5.1	10.2	14.9
Farmers laborers and foremen	18.5	4.8	1.3
Laborers except farm and mine	8.7	15.1	9.6
No occupation reported	11.8	7.1	-0-
	99.9%*	99.8%*	99.8%*
Labor force participation rate			
Male (percent)	66.6	47.9	71.9
Female (percent)	22.8	20.4	42.6
Percentage unemployed	4.0	14.2	6.0

*Totals may not add to 100 because of rounding.

[a]All pueblos.
[b]Pueblo of Laguna.
Source: Census Bureau, 1950, 1960, 1970 reports, as cited in CERT 1981, p.6.

Anaconda employed roughly 125 workers from the mine's opening to the early 1960s when employment jumped to 350-450 full-time employees. A second large employment increase was sparked by changes in federal and commercial uranium procurement policies in the early 1970s when employment reached 700-800. The vast majority of these employees were residents or non-Indians from the Spanish Land Grant, land immediately north of the mine, adjacent to the reservation.

During the 1952-1980 period, the Pueblo made significant progress in other areas of economic development. The most significant development was the construction of a 42,000 square foot industrial building at Mesita in 1963. This building was leased to an electronics firm. The firm employed 200 Lagunas specially trained for electronics work. In the early 1970s, the firm went out of business as a result of marketing problems during the recession. The office portion of the industrial building has been leased since the electronics firm left, but the production area has remained unoccupied. The Pueblo has maintained the building in anticipation of attracting another industrial tenant. Raytheon Company has recently proposed the establishment of a military equipment repair depot in the building. Under the proposal, the Pueblo would finance and own the enterprise with Raytheon being paid a fee to manage it (see section 5.1).

Because of the mine and the electronics firm, the structure of the Pueblo's economy changed dramatically between 1950 and 1980. Farm employment decreased from over 30% of total employment to nearly zero during the 30-year period. Unemployment increased sharply from 1950 to 1960, but decreased from 1960 to 1970 due primarily to increased hiring at the mine (table 3-1.)

It should be noted that the uranium royalties paid to the tribe also helped support significant improvements in infrastructure for the entire Pueblo. Such improvements included: street paving and storm sewers in Old Laguna, completion of natural gas lines to all villages, construction of a reservoir and lining of irrigation ditches at Seama, and several other projects which improved the villages' standards of living. Other projects to diversify the Pueblo's economic base and increased employment opportunities were the construction of a commercial center at Casa Blanca and construction of a tribal arts and crafts building.

3.1.3 Postclosure (Post-1981)

Anaconda originally planned closure of the Jackpile Mine in 1985 or later. However, in 1980, when all but one of its long-term contracts expired and the company was confronted with declining uranium prices, Anaconda chose to close the mine early. Anaconda announced its plans for early closure in July 1980. At first, phase down plans called for a gradual reduction of work force by 1983; then the phase down plan called for a continuation of underground mining during the final two years of operation.*

As the phase down commenced in February 1981, the uranium market continued to weaken with spot market prices bottoming out at $17.00 in October 1982. This undoubtedly hastened Anaconda's phase down. In February 1982, Anaconda removed the last ton of ore from the mine. Except for eight security positions, two maintenance positions and two supervisory positions, all employment at the mine has been terminated.**

In all, permanent closure of the Jackpile Mine will have affected 726 workers in the Valencia County labor market area, including 513 pueblo workers. Based on a November 1980 survey of Pueblo workers at the mine, it is estimated that 101 workers had left for school, military service, or new employment as of the survey date. The loss of the remaining 412 positions will likely increase unemployment significantly among the Pueblo work force. In addition to those workers laid off from the mine, some decrease in service sector jobs is expected as a result of decreased spending.

Although Anaconda originally proposed a phased layoff schedule, the work force was reduced from roughly 625 to 150 in February 1981. The remaining operating positions were eliminated by February 1982. The unemployment effects have been somewhat mitigated by Anaconda making its layoff announcements six months or more prior to the actual termination date. Twelve of those laid off qualified for early retirement, and three with sufficient seniority bumped workers at Anaconda's mill outside Grants. The remainder either found suitable reemployment or are collecting unemployment insurance. Although no exact numbers are available, it is probable a majority of the latter category remain unemployed. The unemployment rate in New Mexico has grown from 7.8% in March 1981 to 10.4% in October 1982. The number unemployed in the state

*Summary document of Anaconda's presentation to the Pueblo of Laguna, 10 July 1980.
**Anaconda Minerals Company, "Response to MMS Questions," June 1982.

has increased from 44,500 to 63,700 in the same period (N.M. Employment Security Division).

On the surface, the characteristics of the displaced Jackpile workers are such that reemployment should be relatively easy if jobs are available. Most have received training and are classified as skilled craftsmen. However, there are several factors that restrict reemployment. First, some portion of those who are qualified for mining positions may not want to work in that occupation any longer.* Second, some portion of those wanting to work in occupations which currently have openings may need training, but may not be willing to undertake training on a full-time or long-duration basis. Third, those workers who qualify for a job, or are willing to train for a job, may not be willing to commute to a remote job site. Fourth, those unwilling to commute may also not be willing to relocate for a desired job. This combination of mutually dependent factors will tend to reduce the number of reemployable Jackpile workers.

The total on-reservation labor force is estimated at 1,200. Reservation unemployment is reportedly over 50% currently; thus, there are more than 600 unemployed persons living at the Pueblo of Laguna.**

Employment opportunities, both planned and potential, are detailed in chapter 5.0. In general, future employment opportunities for the laid-off Jackpile workers, as well as others on the reservation, are marginal with one notable exception. The tribe plans to establish the Laguna Industrial Center at Mesita as a Depot Overhaul Point for the maintenance and repair of military equipment. It was initially hoped that hiring at the depot would begin at the end of 1981 and employ 400 workers by mid-1982. However, a series of Defense Department approval delays has postponed this timetable (see section 5.1 for a detailed description of the Industrial Center and its future use.)

For those Lagunas unable or unwilling to secure employment at the depot, unemployment will remain a significant problem. There is also a need for improved employment opportunities on or near the reservation for those Lagunas just graduating from high school and/or summer employment for students. Previously, mine employment filled this need. The depot alone will not be able to eliminate the Pueblo's historically high unemployment rate. Thus, the Pueblo intends to attract new industries and developments to the reservation. It is unlikely that the federal government will be able to contribute financially to the Pueblo's economy to the extent that it has in the recent past, at least under present budget trends.

Secondary effects of the mine's phase down have been felt by businesses both on and adjacent to the reservation. Estimates of the decline in business volume since the mine's layoffs by managers and owners of local businesses range from minimal to 75%. Few reported having to lay off employees, but many indicated the real test would come when the eligibility period for unemployment insurance expires.***

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*Many of the area mining employment opportunities are for underground miners. Lagunas surveyed in 1980 were generally reluctant to accept underground work.

**Pueblo of Laguna, Federal Assistance Application, submitted to the U.S. Department of Housing and Urban Development, 10 July 1981.

***Personal communication with business managers and owners in Rio Puerco, Laguna, New Laguna, Bibo, Paraje, Casa Blanca, Cubero, and Budville, 23-24 September 1981.

3.2 INCOME

3 2.1 Premine (pre-1952)

Very little income data exist concerning the Pueblo of Laguna prior to 1950. The economic base of the Pueblo was primarily subsistence farming and herding. Trade was mostly via barter and exchange relationships. Those Lagunas who worked for the Santa Fe Railroad received a wage above the tribal average and roughly commensurate with the area average.

The figures in table 3-2 indicate that pueblo people in 1950 had a standard of living well below average. The median family income among New Mexico Indians was less than half of the state's median family income. No separate data exist for the Pueblo of Laguna prior to 1970.

Table 3-2. PUEBLO INCOME DATA

	1950[a]	1960[a]	1970[b]
Median income of persons reporting income—Pueblo	$815	$1,318	$2,661
Median income of persons reporting income-New Mexico	$1,681	$2,809	$3,590
Median school years completed—Pueblo	6.1	8.4	11.3

[a]All pueblos.
[b]Pueblo of Laguna.
Source: Census Bureau, 1950, 1960, 1970 reports, as cited in CERT 1981, p.6.

3.2.2 Preclosure (1953-1980)

Median income among those reporting income rose 62% between 1950 and 1960 for all pueblos in New Mexico. While the median education level of New Mexico Pueblo Indians increased to the completion of almost half of ninth grade, the median income among pueblo residents was only 47% of the state median figure in 1960, compared to 50% in 1950.

From 1960 to 1970, an increasing number of Indians shifted into skilled and semiskilled occupations at the mine and electronics plant, reflected in a doubling of median income among those reporting income. The Pueblo also made significant gains relative to the state of New Mexico. Median income for the Pueblo of Laguna increased to 74% of the state median figure in 1970, compared to 47% in 1960. Meanwhile an increasing number of Laguna people completed high school, with the median level of education being completion of one-third of the senior year. Laguna-Acoma High School data show that, from 1975 to 1978, 38% of the graduating seniors went on to college and 15% went on to trade school. No Census or comparable data exist for 1980.

Table 3-3 presents the major employers in 1978 and the annual payroll for each. These data are for the combined trade area of the Pueblo of Laguna and Acoma. Sohio

operated a uranium mine northeast of the Jackpile Mine, adjacent to reservation land, which closed in late 1980. As shown, Anaconda's employment was 42% of total area employment in 1978 and its payroll represents just under 50% of the area total.

Table 3-3. MAJOR SOURCES OF INCOME: 1978, LAGUNA AND ACOMA RESERVATIONS

Employer	Number of Employees	Total Payroll	Average Annual Income
Anaconda Corporation	680	$11,492,000	$16,900
Sohio	270	4,744,000	17,570
Indian Health Service	100	1,941,229	19,412
Bureau of Indian Affairs	100	1,478,393	14,784
Laguna Tribal Programs	350	2,461,017	7,031
Others (estimated)	120	1,100,000	9,167
TOTAL	1,620	$23,216,639	$14,331

Source: AIDA 1979, p. 15.

Total personal income for the combined trade area of the Pueblos of Laguna and Acoma was estimated at $24 million to $25 million in 1978. This represents a 172% increase from a 1975 estimate of $9 million. A further measure of increases in area income prior to the mine closure is presented in table 3-4 below.

Table 3-4. PUEBLOS OF LAGUNA AND ACOMA TRADE AREA INCOME STATISTICS: 1970 AND 1978

	1970[a]	1978[b]	% Change
Total aggregate family income	$4,120,900	$24,300,000	490
Per capita income	1,615,000	3,484,000	116
Median family income	6,115,000	14,860,000	143

[a]1970 Census.
[b]AIDA 1979, p. 16.

A supplemental source of purchasing power for low-income Laguna families is provided by the Department of Agriculture's Food Stamp Program. Average monthly allotment of food stamps in western Valencia County was $87,383 in 1978. Of this amount, roughly $9,000 per month was distributed among 69 Pueblo of Laguna households (AIDA 1979, p. 17).

In 1979, federal transfer payments, including pensions, retirement income, and welfare, provided income to only 15% of households on the Pueblo of Laguna reservation. In 1969, over 45% of the reservation's households were receiving some kind of federal transfer payment. Clearly, the income situation was improving for the Pueblo of Laguna prior to the mine closures (AIDA, 1979, p. 17).

3.2.3 Postclosure (post-1981)

With the closure of Anaconda's Jackpile Mine, the Pueblo's major source of income, it is anticipated that median income for tribal members will once again lose ground to a faster growing state-wide median income figure. For those Pueblo workers who are able and willing to secure employment on energy-related projects, their income will likely be comparable to their former Anaconda income. However, these employment opportunities are limited, sometimes temporary, and often require extensive daily commuting or relocation. As discussed, many Pueblo workers may not find higher wages to be a sufficient compensation for such deterrents (see sections 5.3, 5.4 and 5.5 for a more complete discussion).

If it is established, the Depot at the Laguna Industrial Center will likely replace Anaconda as the reservation's largest employer with 400 tribal employees on the payroll within its first 16 months of operation. There are no other large, permanent employers foreseen for the Pueblo of Laguna.

4.0 COMMUNITY FACILITIES AND SERVICES

This chapter describes the current conditions and needs of the Pueblo of Laguna's services and needs of the Pueblo of Laguna's services and facilities. Most of the existing services and facilities on the reservation are of good quality; however, the tribe's steady population growth has caused overcrowding in many facilities and programs. Recent cutbacks in many federal programs have caused concern over future funding of existing programs and financing of needed capital construction.

4.1 HOUSING*

Under the auspices of the Laguna Housing Authority (LHA), 250 new housing units were constructed on the Pueblo within the last five years. Money for construction of these units came from the U.S. Department of Housing and Urban Development, Office of Indian Programs. Because of shifts in federal housing policy, there is some question whether this money will be available in the future. An estimated 100 additional housing units are needed to provide adequate housing for the reservation's existing population.

New housing will be required in the future on a continuing basis in order to meet the demands of an aging and growing population. New housing is also required to continue the present program of upgrading the Pueblo's existing housing stock.

Additional housing is needed in each of the Pueblo's villages roughly in proportion to each village's population. However, if employment opportunities are not expanded on the reservation, a need for additional housing on the eastern edge of the reservation may arise. This would permit shorter commuting time for workers in the Albuquerque area while reducing pressure to move off the reservation. No additional demand for housing is foreseen for the Mesita area even with the planned start-up of the Depot Overhaul Point at the Laguna Industrial Center. It is anticipated that the maximum commute of 20-25 minutes from Paguate to Mesita will not be sufficient incentive for relocation to Mesita.

The Housing Authority Director feels that housing assistance is needed for those Lagunas who are earning above the maximum qualifying income permissible to qualify for low-income housing assistance. Positive economic incentives are necessary which will provide housing assistance for those in need without encouraging withdrawal from the work force.

4.2 WATER AND SEWER**

Water service for the Pueblo is divided into two unofficial districts. Paguate receives its water from wells near Mount Taylor on the northern end of the reservation. All other

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*Information for this section provided by Donald Montoya, Executive Director, Laguna Housing Authority, telephone conversation, 7 October 1981.

**Information for this section provided by James Sice, Acting Division Manager, Tribal Facilities, telephone conversation, 7 October 1981.

villages are located in the San Jose Valley, along I-40, and receive their water from wells interspersed along this east-west corridor. Paguate enjoys an adequate supply of raw water and their delivery system is in good shape. Residents of the valley's system experience a declining water table, primarily during the summer months. Additional wells are being drilled to alleviate this problem. Once these wells are developed and delivery lines connected, the valley's water supply will be capable of accommodating a 10-15% population increase. Well-head chlorination is the only treatment required before delivery. Changes to the water delivery system may be required for fire protection, but none are currently planned (see section 4.4).

All villages on the Pueblo have an open lagoon sewage system. About 10-15% of the subdivision houses located on the edge of villages are not served by this system. These houses have individual septic systems. The Indian Health Service (IHS) is supporting the expansion of the existing lagoons to include all existing housing. As new housing developments are constructed, new cells will be required at the existing lagoons. In general, the addition of these houses will require pumps or lift stations to be installed for the sewage lines. The entire system currently is operated via gravity flow. No timetable has been established for the inclusion of houses now served by septic systems. The operation and maintenance of the Laguna Reservation domestic water and sewage systems is the responsibility of the Laguna Tribe with the technical assistance provided by the U. S. Public Health Service, Indian Health Service, and Office of Environmental Health. There are no utility or user fees, the cost for maintenance and operation being budgeted annually from tribal funds.

4.3 ROADS*

The Pueblo of Laguna has an ongoing program to upgrade and pave all the roads in each village. Currently, only the bus routes are paved. Paving is also needed for roads providing access to village recreation areas. Funding for these road improvements had come from the Bureau of Indian Affairs and from tribal funds. However, the tribe anticipates considerably less federal money for these projects. This will slow the rate at which paving and improvements are undertaken. Construction of gutters and sidewalks within each community is also desirable; however, funds are not available.

4.4 POLICE AND FIRE**

In early 1982, the police department was operating with 11 officers, down from 17 officers nine months before. This reduction in manpower primarily reflects a lack of non-Indian housing on the reservation for officers and patrolmen. A low pay scale relative to the Albuquerque area also adds to attrition. Pay scales increased to a more competitive level 1 March 1982, but no plans exist for improving on-reservation housing. However, the police department does have 60 applications for employment, largely due to layoffs at the Jackpile Mine. The department anticipates returning to a 17-person force in the future.

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*Information for this section provided by James Sice, Acting Division Manager, Tribal Facilities, telephone conversation, 7 October 1981.

**Information for this section provided by Wayne Granger, Division Manager, Pueblo of Laguna Law and Order, telephone conversation, 7 October 1981.

Current station and garage facilities are considered adequate for present and future growth. The jail holds only civil offenders because all felony crimes are the Federal Bureau of Investigation's jurisdiction. The Pueblo of Laguna has a relatively low crime rate among southern pueblos. One 15- to 20-person wing of the jail has been closed for the past two years.

The Pueblo of Laguna's Fire and Rescue Department is staffed by 14 paid positions and 43 volunteers. Recent federal budget cuts have reduced the number of paid positions from 22 to 14. Additional tribal money is being budgeted to replace these positions. Currently, the department serves the entire reservation from a single 700 square foot station with four pumpers and three rescue vehicles. Money from the Department of Housing and Urban Development was secured to construct a badly needed substation on the western half of the reservation and to purchase two additional pumpers and an additional rescue vehicle. These additions should reduce a formerly unacceptable response time to the western villages and reduce the high fire insurance premiums paid by homeowners in this area.

Fire and rescue calls have increased 47% in the past two years. The division manager believes this is due to poor design of the new housing units. There is concern that fire protection is being ignored by the housing authority and the water department. Few hydrants are being installed in the new housing developments and sewage lagoons often have to be used to supplement the water supply.

4.5 RECREATION*

Recreational facilities on the reservation are largely limited to unimproved baseball fields located at each village. There are no indoor recreational facilities, with the exception of a joint-use agreement with the Laguna-Acoma High School permitting use of the gymnasium. Under this agreement, use of the school gym by nonstudents cannot interfere with the school's use. This limits the use to very early or late hours resulting in little nonschool use. Community centers, located in each village, are used during summer months as game centers, but they have no recreational equipment or potential. The centers are not used in winter months for lack of supervisory personnel. Funding for summer staffs for these centers was provided by CETA grants; however, with the elimination of the CETA program, the future of these centers is highly uncertain.

An indoor sports complex is planned as also are covered picnic and playground areas for each village. However, the elimination of the Heritage Conservation Recreation Service leaves little hope that these facilities will be constructed in the near future. Tribal funds will most likely be devoted to operation and maintenance of existing facilities and programs.

*Information for this section provided by Ronald Ray, Recreation Director, Pueblo of Laguna Community Services, telephone conversation, 7 October 1981.

4.6 EDUCATION*

Prior to 1965 each village has its own grade school (kindergarten through sixth grade). In 1965 all grade schools were consolidated into a Bureau of Indian Affairs school located near Laguna. There is also a Head Start Program on the reservation for young children. Students from all villages are bused daily.

The Laguna-Acoma High School was built in 1962. Current enrollment is roughly 600 students in grades seven through 12. Conditions in the senior high are extremely crowded. A Congressional appropriation was made for the construction of a $250,000 junior high school. Federal cutbacks could jeopardize the construction of the new facility.

Other reductions in the federal budget have hurt the Pueblo's school system very badly. The reduction in the school lunch program is likely to affect attendance and attentiveness. Five new school buses are also needed, with no source of funds. The lack of on-reservation, non-Indian housing coupled with insufficient funds forces the high school to remain at its current 25:1 student:teacher ratio, rather than its goal of 15:1.

4.7 HEALTH AND SOCIAL SERVICES**

The ACL Hospital, located eight miles west of Laguna, serves the three reservations for which it is named: Acoma, Canoncito, and Laguna. The Pueblo's health services are in excellent physical and fiscal condition. The ACL Hospital is a 40-bed facility with an average daily patient load of 18.

The Laguna Health Clinic serves the area with outpatient facilities, health maintenance education, and counseling. The health clinic is well-staffed with professionals but lacks support staff. The Laguna Health Clinic and the ACL Hospital are funded and operated under the Indian Health Service.

In addition to the above federal health programs, the tribe staffs and funds, with federal assistance, several health and social service programs. The Tribal Health Representative Program operates health education, interpretation, and screening programs, as well as medical transportation services. A Tribal Safety Program provides preventive health services in homes and workplaces. An Emergency Service Program responds to emergency medical calls on the reservation. An extensive Alcohol and Social Services Program presents village programs and counseling and referral services for the prevention and treatment of alcoholism.

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*Information for this section provided by Victor Serracino, Manager, Division of Education, Pueblo of Laguna, telephone conversation, 7 October 1981.

**Information for this section provided by James Toya, Director, ACL Hospital, telephone conversation.

4.8 FISCAL STRUCTURE

As discussed, the majority of funding for capital expenditures comes from federal sources. However, as many of these programs are cut back or eliminated, the tribe will be forced to look for alternative sources of funds or to forego many of the planned construction or expansion projects.

Maintenance and operational expenses are largely borne by the tribal government. The tribe has amassed an investment portfolio from uranium royalty income from the Jackpile Mine. The interest earned on this portfolio is appropriated for government operations and, when a surplus exists, for per capita distribution. The tribal government uses only the interest income for expenditures, choosing to leave the principal of the portfolio intact. Occasionally, the portfolio is used to leverage other funds for capital expenditures. As long as the principal in the portfolio is not reduced, the Pueblo will continue to receive uranium-related income. However, it should be noted that, once uranium royalty payments cease with the mine's closure, the real value of the portfolio will decrease as long as all earned income is appropriated. It also should be noted that, the decision to leave the principal in the portfolio intact could change with changes in tribal government.

4.9 SUMMARY

The Pueblo of Laguna's community services and facilities are faced with several immediate and costly needs. Additional housing is needed, the Laguna-Acoma High School is overcrowded, and year-round recreational facilities are needed. These capital needs come at a time when the traditional source of capital expenditures--the federal government--is making severe budgetary cutbacks. The tribe enjoys a relative affluence among southern pueblos as a consequence of its accumulation of an investment portfolio from uranium royalty revenues. However, care must be taken to avoid losing this money to exhaustive capital expenditures or to inflation. In addition to the closure of the Jackpile Mine and the loss of its employment and royalty benefits, the Pueblo of Laguna faces a tightening federal budget. The tribe may be forced to look for other sources of funds or may be forced to expend part of the principal in its investment portfolio if it is to continue to meet the needs of an expanding population.

5.0 PLANNED AND POTENTIAL ECONOMIC GROWTH

Employment opportunities, both planned and potential, are discussed in this chapter. The Pueblo of Laguna's efforts to diversify its economic base and provide employment opportunities are discussed in the first two sections, followed by a discussion of energy-related employment opportunities in the Northwest New Mexico and the Albuquerque area economy. In general, the Pueblo's efforts to diversify its economic base represent the best opportunities for tribal employment, while other area developments have unique circumstances which reduce their attractiveness to the Pueblo's unemployed.

5.1 LAGUNA INDUSTRIAL CENTER

Construction on the 42,200 square foot Laguna Industrial Center was completed in 1963. For ten years, it was occupied by an electronic component manufacturer; however, its production space has remained vacant since 1973 when the manufacturer went out of business. Office space has since been leased to the Bureau of Indian Affairs. Plans are currently being finalized to establish the industrial center as a Military Depot Overhaul Point. The center's office and production space will be devoted to the maintenance and repair of U.S. Department of Defense electromechanical equipment. It is anticipated that tribal employment will reach 400 within 16 months of the depot's opening.*

The industrial center is located immediately south of the Mesita interchange of Interstate 40 (see figure 1-1). The tribe will own and operate the depot and management, training, and professional consultation will be provided under contract by the Raytheon Company. Raytheon will provide these services for a flexible time period estimated at two to three years, after which time the tribe will assume full responsibility for the depot's operation.

The total cost of renovating the industrial center, training and management, and acquisition of capital equipment is $7.5 million. Roughly $1.2 million of the depot's start-up costs would be borne by the Pueblo. Other sources of funds include a $3.2 million loan from the Bureau of Indian Affairs. Preliminary financial projections indicate that the depot could achieve a positive cash flow by the end of the first year. A positive return on total investment is projected for the fourth year of operation.**

A preliminary skills registration was recently conducted by Raytheon of Pueblo workers interested in employment at the depot. Of the 500 respondents, 435 (87%) had appropriate skills or job experience. At the time of the survey, 365 (73%) of the respondents were unemployed. Some survey respondents listed management or instructional experience, leading Raytheon to conclude that the training period, before the depot is completely turned over to the Pueblo, may be reduced by one-half.***

Establishment of a Depot Overhaul Point at the Laguna Industrial Center would increase on-reservation employment opportunities, provide a stable income and long-term

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*Personal communication with Ray Goetting, Laguna Tribal Consultant, Laguna, New Mexico, 22 September 1981.

**Pueblo of Laguna, Federal Assistance Application, 10 July 1981.

***Personal communication with Ray Goetting, September 22, 1981.

investment opportunity to the Pueblo, and diversify the Pueblo's economic base. By the end of the depot's second year of operation, it is projected to add $9.4 million (1981 dollars) to the Pueblo's economy through direct wages and local purchasing.*

5.2 CASA BLANCA COMMERCIAL CENTER

The 43,000 square foot Casa Blanca Commercial Center is located south of Interstate 40 immediately south of the Casa Blanca interchange (see figure 1-1). Construction on the center was completed in early 1981. The center has one anchor tenant's space, designed for a supermarket chain, and several smaller store areas.

The center has no tenants. The center's store front faces away from both I-40 and the center's access road. Representatives from several supermarket chains have indicated that the anchor tenant's floor space is too large. Remedy of these problems would be extremely costly. However, if a supermarket tenant can be secured, it is anticipated that the remaining stores will be quickly leased to convenience- and tourist-related businesses. If this is accomplished, the Pueblo will benefit from increased shopping convenience, improved employment opportunities, especially for the semi-skilled and unskilled workers, and from a significant reduction in income leakage to the larger market centers of Albuquerque and Grants.

5.3 FUTURE URANIUM DEVELOPMENT

Public announcements as of August 1980 of future employment changes by uranium industry representatives indicated an expansion of the area uranium industry (CERT 1981, p. 31). However, recent price declines and supply-demand market imbalances make a net expansion of the uranium industry unlikely. In 1981, Conoco's Bernabe Montano lease was being evaluated for underground mining potential. Poor market conditions have precluded this development. Even if development took place, a recent survey of nonunderground workers at the Jackpile Mine indicated that only 28% are willing to work in underground mining. None of those surveyed listed underground mining as a preferred occupation (CERT 1981, p. 33).

The potential increase in employment in the uranium industry could offset the layoffs at the Jackpile and other area mines, but not until the mid-1980's. These employment increases are almost exclusively in underground mining and will not occur until the uranium market revives (CERT 1981, pp. 31, 33).

Northwest New Mexico has experienced several uranium boom-and-bust cycles in recent history leading to rapid population growth and increased employment opportunities. However, current U.S. uranium production greatly exceeds domestic consumption. Although the history of the uranium industry has been one of drastic change and overreaction to price, the long lead time and high cost of nuclear power plant construction and the continuing encroachment of lower-priced foreign supplies combine to reduce the possibility of a new uranium boom (Beattie 1981, p. 1).

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*Based on an $8 million payroll and an 85% leakage of local spending. From Council of Energy Resource Tribes, Recommendations for an Economic Adjustment Strategy, p. 8.

It is, therefore, unlikely that the northwest New Mexico uranium industry will absorb an appreciable number of the Pueblo's unemployed. However, employment opportunities in other area energy industries may aid in the readjustment of the Pueblo's labor force.

Anaconda has terminated its interest in the property and is no longer involved in the uranium industry. As a result of this action, all mineral rights previously leased by Anaconda have reverted to the Pueblo of Laguna. This includes stockpiled ore on the lease site.

During the productive life of the mine, low-grade uranium ore was intentionally mined and stockpiled on the lease area. The primary reason for the removal of the low-grade ore was the predominant mining method utilized during the operating mine life; i.e., open pit. The low-grade material had to be removed to accommodate mine development and to access higher-grade uranium ore. If the Jackpile-Paguate deposits had required total underground mining, instead of open pit, the majority of the low-grade material would not have been removed and would still be in-place.

The Pueblo of Laguna, through CERT, has recently completed an assessment of the remaining in-place uranium reserves within the Jackpile-Paguate deposits. The evaluation was completed during January 1982 and consisted of interpreting over 24,000 drill hole logs and establishing areas not mined through overlaying current mine maps and Anaconda's remaining project mining schedule. The results are very encouraging with over 1,186,000 tons of ore remaining in-place containing over 5,740,000 pounds of U_3O_8 at an average grade of over 0.24% U_3O_8 mineralization.

When Anaconda terminated mine production and ore hauling, over 17.5 million tons of low-grade ore remained at the mine site, contained in 23 separate stockpiles. At the request of the tribe, CERT conducted a technical evaluation on certain stockpiles to determine volumes of material and a representative percentage of U_3O_8 mineralization. Based upon the stockpile evaluation, an additional 3,662,000 tons of stockpiled ore containing approximately 3,657,000 pounds of uranium would be available for U_3O_8 extraction.

After completing the technical evaluation on the selected stockpiles, four scenarios were developed to project the economics of continued U_3O_8 extraction for a reserve base consisting of the remaining minable reserves and the surveyed stockpiles. The four scenarios are listed below:

- toll milling at the SOHIO-Reserve mill;
- toll milling at the Bokum mill;
- heap leach extraction including the remaining minable reserves; and
- heap leach extraction excluding the remaining minable reserves.

Underground mining would have to resume, if the tribe elects to pursue toll milling at either the SOHIO-Reserve mill or Bokum mill because it would not be technically or economically feasible to process the stockpiled material through a conventional milling process without blending with higher-grade ore at the mill head. However, the stockpiles could be processed at a profit without continued underground mining through unconventional heap leach extraction. The resulting cumulative cash flows derived from the scenarios range from $21,102,000 to $68,108,000 and projected rates of return range from 31.45% to 92.11%.

In addition to economic reserves remaining at the Jackpile-Paguate mines, Conoco held four leases contained in the Bernabe-Montano grant block. During the primary term (10 years) of Conoco's lease agreement, over 1,100 exploration and development holes were drilled on the four leases. Based upon drilling results and a GT (Grade x Thickness) cutoff of 0.42, 3,763,127 tons of minable uranium ore at an average diluted in-place grade of 0.118% U_3O_8 content were delineated. This represents approximately 8,800,000 pounds U_3O_8 concentrates.

Conoco's original plans were to develop a mine and construct a mill to process 1,350 tons of ore per day. Conoco did not have forward sales contracts for future uranium production and, when the NUEXCO exchange value dropped, it revised and scaled down its mine plan. Conoco's revised mine plan increased the GT cutoff to 0.60, increased the average diluted in-place grade to 0.14% U_3O_8, and reduced the total tons of minable ore. Mine production was planned at 800 tpd and U_3O_8 extraction at the SOHIO-Reserve mill through a toll milling contract.

Conoco had to realize production by 1982 in order to maintain its interest in the lease. This was physically impossible and Conoco voluntarily terminated the leases in September 1981, and all of Conoco's mineral interest has reverted to the tribe. Currently, the project is not economic but could become viable toward the end of the decade or in the early 1990s when U_3O_8 prices increase at a higher inflation rate than other goods and services in the economy.

5.4 FUTURE NON-URANIUM ENERGY DEVELOPMENT

Two major non-uranium energy projects are planned for the Grants area. In 1982, the Plains Electric Power Cooperative plans to begin construction on a coal-fired power plant north of Prewitt, New Mexico, 20 miles west of Grants. Many surface mining skills are transferable to power plant construction, thereby providing temporary employment opportunities for some of the displaced Jackpile workers. The two obstacles which reduce the attractiveness of this employment opportunity are a 64-mile one-way commute and the temporary nature of the employment: one to four years depending on the experience and skills of the individual workers.

The second employment opportunity is the Chaco Energy Company's planned south Hospa Coal mine. Coal will be surface-mined by 300 employees. However, mining is not scheduled to begin until 1983 and is dependent upon completion of a railroad spur to the mine. An additional difficulty is the 84-mile one-way commute to the Chaco mine from Laguna (CERT 1981, pp. 34-35).

In addition to uranium reserves, coal, geothermal, and hydroelectric resources are located on Pueblo of Laguna reservation land. However, these resources are marginal in quality and economic potential. No non-uranium energy resource development is anticipated on Laguna land.

5.5 OTHER EMPLOYMENT POSSIBILITIES

Table 3-1 showed employment by sector for the Pueblo of Laguna and other pueblos in New Mexico. Recent growth in the mining industry was the likely stimulus for growth in

nonbasic industries such as wholesale and retail trade, services, and finance, insurance, and real estate. The recent layoffs in the Laguna-area uranium mines are likely to cause stagnation or reduction in nonbasic employment opportunities. Until energy-related growth can offset the loss of jobs at Laguna area mines, the overall employment picture in Cibola County is bleak.

The New Mexico Highway Department has proposed relocating the stretch of Highway 279 which currently runs along the western edge of the Jackpile Mine. This winding section of road is planned to go straight through the pit area. No details as to start-up dates or employment possibilities are available at this time.

Employment data from 1970 through 1980 for the Albuquerque SMSA (Bernalillo and Sandoval Counties) are presented in table 3-1. Durable goods manufacturing was the fastest growing basic sector from 1970 to 1980, nearly doubling. The in-migration of the electronics industry was largely responsible for this large increase. The decade-long increase in all the nonbasic sectors of the Albuquerque SMSA economy was tied to this dramatic increase in manufacturing and government employment. Although the government sector is not expected to grow in the future, the electronics industry is expected to continue its recent growth pattern with the following companies recently opened:

- Intel Corporation (1981) - 1,000 jobs;
- Signetics Corporation (1982) - 1,200 jobs; and
- Sperry Corporation, Flight Systems Division (1982) - 300 jobs.*

The New Mexico Employment Security Department stressed the need for qualified applicants in the electronics-related and white collar occupations in its 1980 annual report (N. M. Employment Dept. 1980). However, the competition for these jobs is expected to be intense. Intel received 12,000 applications for its 1,000 job openings in 1981 (CERT 1981, p. 36).

In general, Lagunas do not possess the requisite skills in the electronics industry necessary to maintain their earnings level from mine employment. This means they would have to enter training programs for the more skilled occupations, which involves foregoing income for the 15-21 months of training, or entering apprenticeship programs at lower wages. Most other occupations, including assembly line electronics manufacturing, pay substantially lower wages (CERT 1981, p. 36).

Although those Pueblo workers who were laid off by Anaconda will find it very difficult to replace their incomes at the former level, average weekly wages in the Albuquerque SMSA were 31% greater than those in Valencia County in 1979 (CERT 1981, p. 40). Therefore, it is possible that many displaced Pueblo workers will search for employment in the Albuquerque area. While the 45-mile commute from Laguna to Albuquerque is not prohibitive, it may be sufficiently inconvenient and expensive to encourage some workers to move off the reservation. This may represent a threat to the Pueblo's social structure, depending on the gross numbers involved in relocation.

Deposits of gypsum and travertine (marble) exist on the reservation. Studies are needed to determine the demand, marketability, and economic potential of these deposits. Sand

*Albuquerque Chamber of Commerce, AIDS office.

and gravel beds also exist on the reservation. These materials have been used in the past for highway construction. No appreciable employment opportunities are foreseen for any of these resources, unless large amounts of sand and gravel from the reservation will be used in the relocation of Highway 279 (N. M. Planning Office 1971).

5.6 LAND USE

Of the 465,000 acres on the Pueblo of Laguna reservation, over 97% is open range grazing or remains vacant. Anaconda was the only active mining operation on the reservation with 8,189 acres under lease. As of 1972, there were 1,402 acres devoted to residential use. This acreage has grown with the substantial increase in housing in the 1970s, but additional acreage data are not available. Public land uses amount to roughly 275 acres with the majority of this land located in and around Paguate and Laguna. In 1970, there were 450 acres of Pueblo land devoted to agriculture. This figure had been decreasing annually through 1970 and is likely closer to 200-300 acres. Less than 10 acres are devoted to industrial uses, six acres at the Laguna Industrial Center and four at the Casa Blanca Commercial Center. Only seven acres are used as commercial and business sites. Future land use is not expected to change substantially, with the obvious exception of the elimination of mining acreage.

5.7 SUMMARY OF EMPLOYMENT OPPORTUNITIES

The establishment of a military Depot Overhaul Point at the Laguna Industrial Center plans to employ 400 tribal members within 16 months of operation. The Casa Blanca Commercial Center has no tenants and, until necessary architectural changes are made, it will likely remain unoccupied. Regional uranium-related employment is tentatively projected to increase sufficiently to offset recent layoffs at the Jackpile Mine. However, development plans are subject to the uncertainties of a stagnant uranium market. In addition, the net shift from surface to underground mining poses serious reemployment problems to Pueblo workers who are not disposed toward underground mining. A potential does exist for the Pueblo to mill uranium stockpiles left on the Jackpile Mine site. This would employ some equipment operators and partially replace lost uranium royalty income. The long commuting times to planned non-uranium energy-related projects are an additional deterrent to reemployment. Employment growth in nonenergy industries in Cibola County is unlikely. Growth in manufacturing, especially in the electronics industry in Albuquerque, may represent some employment opportunities for the Pueblo. Although a lack of required skills may retard reemployment, the relatively high wages in Albuquerque will likely encourage some Pueblo workers to relocate or possibly commute weekly from the reservation.

6.0 SITE CONDITIONS AFFECTING REUSE

6.1 GRAZING

Historically, the Lagunas depend on livestock as part of their main subsistence. Sheep have been the major livestock on the reservation in the past. In 1930, there were approximately 44,000 sheep and lambs; 6,000 goats and kids; and 1,000 cattle on the reservation (Zeh and Johnson 1930). The carrying capacities in the Paguate and Concho Valley grazing districts as shown in figure 6-1 were 72 and 9 acres per animal-unit month, respectively.

At present, major livestock on the reservation include sheep and cattle. Limited numbers of goats and horses are also present. This area (section 2) is outlined in figure 6-2. According to a 1968 BIA range inventory, the majority of the range in section 2 was classified as fair condition and about 20% of the range was classified as good condition. The carrying capacity (recommended stocking rate) was estimated at 41 animal unit months.

6.2 AGRICULTURE

Acreages by crop type are listed in table 6-1. However, crop production and yields were not available. This is probably due to the fact that the gathering of field data from the many family plots is quite difficult. Approximately 1,690 acres comprise the actual potential cultivated lands. These acreages are thought to be composed of those lands categorized into capability Classes I and II described previously.

Table 6-1. LAGUNA FARM ACREAGE BY CROPS INCLUDING ING PASTURE, IDLE, AND FALLOW LANDS: 1978-1980

Crop	1978	1979	1980
Alfalfa	29	24	13
Corn	55	68	38
Oats	2	—	00
Chili	7	8	7
Garden	3	7	—
Orchard	12	13	3
Grapes	1	0.3	—
Pasture	9	32	2
Fallow	6	3	27
Idle	1,966	1,534.7	1,606
Totals	1,690	1,690	1,690

Source: U.S. Department of Interior.

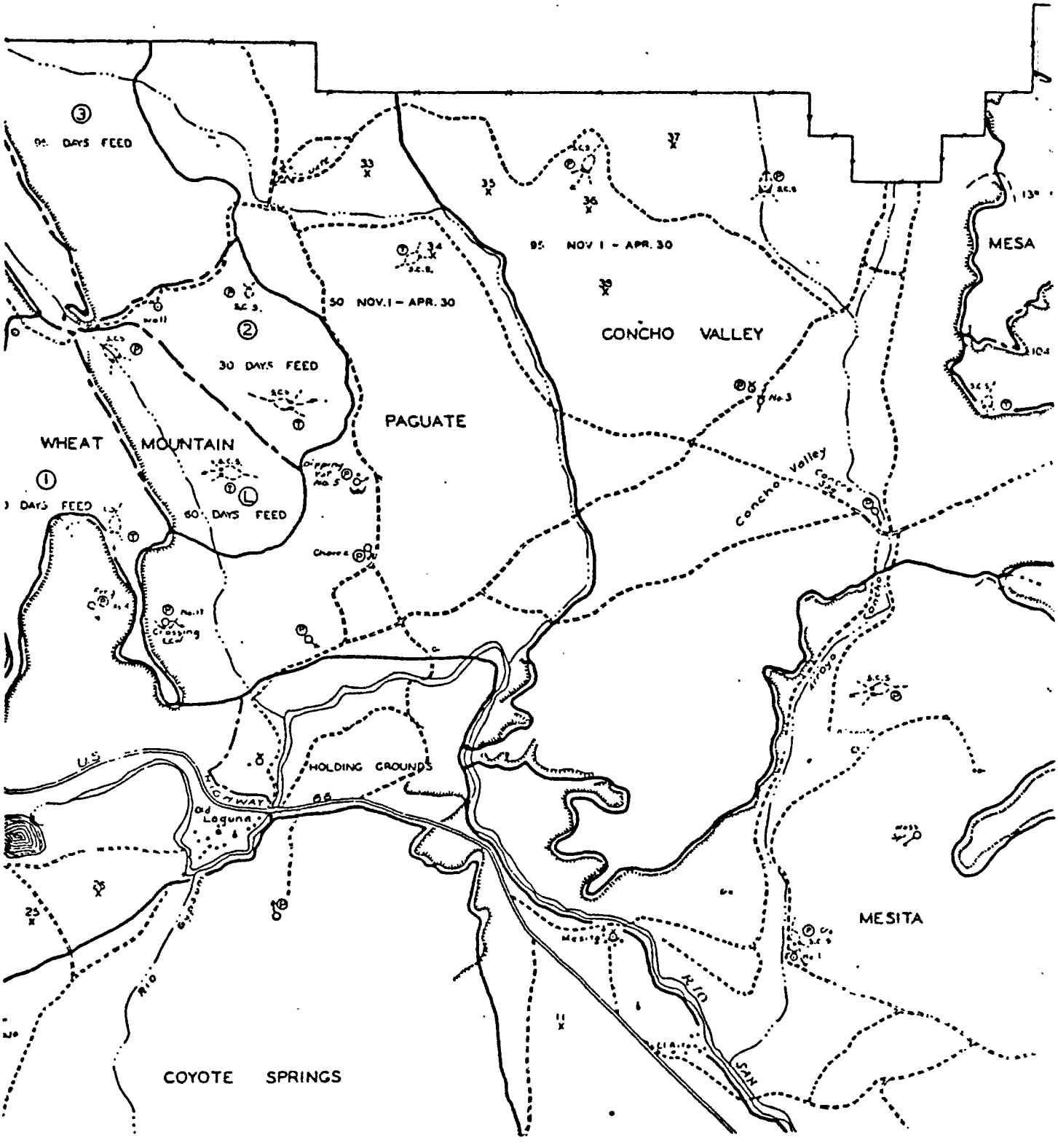

Figure 6-1. LIVESTOCK CARRYING CAPACITY IN THE PAGUATE AREA

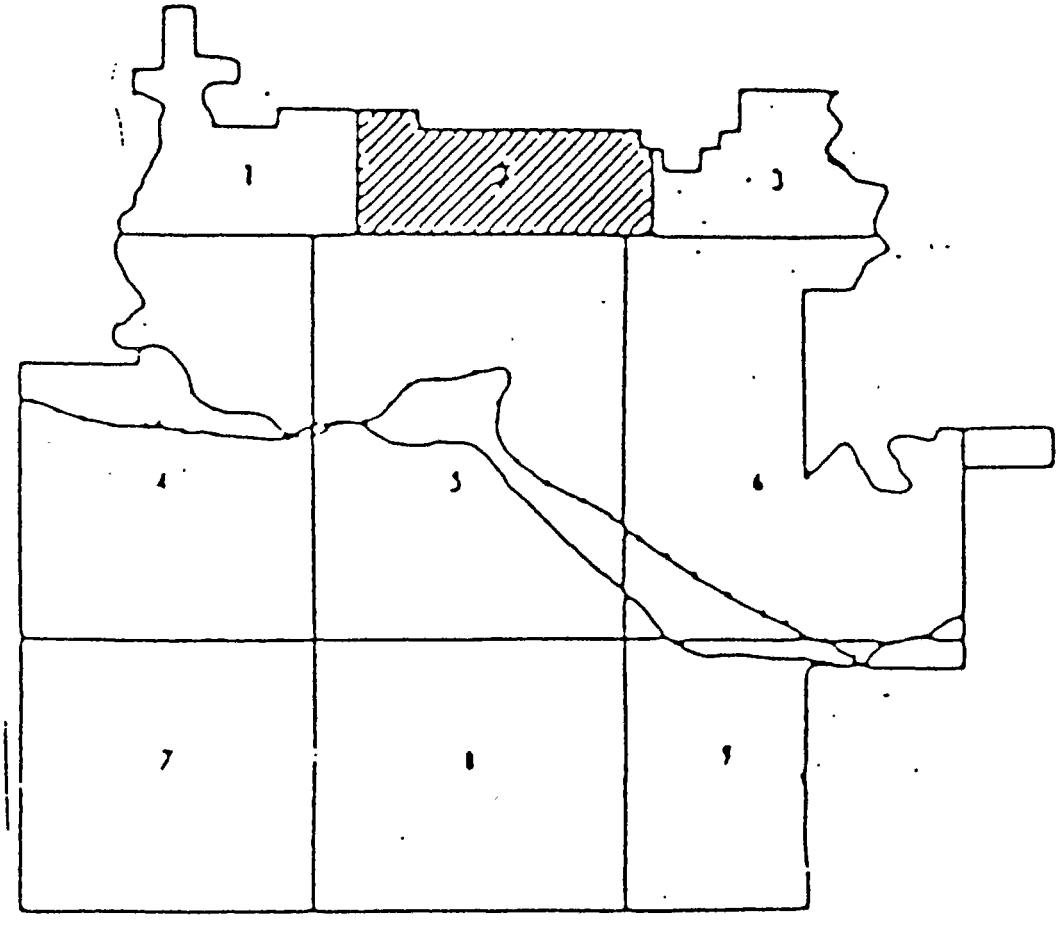

Figure 6-2. LOCATION MAP: BIA RANGE INVENTORY

Prior to mining, the uranium and paguate bottomlands were formed. Farmable acreage were made unusable by mining.

6.3 SHOP AND OTHER MINE SITE BUILDINGS

An architect was hired to survey the shop buildings and other mine site buildings. Facilities surveyed included buildings at the P-10 site (marked "A" in figure 6-3), the shop buildings (marked "B" in figure 6-3), office buildings (marked "D" in figure 6-4), and the old shop complex (marked "E" in figure 6-5). A description of each group of buildings taken from the architects report is provided below.

6.3.1 Area A: P-10 Site Buildings

"This area is currently referred to as the P-10 site, which consists of the underground mine entrance, conveyor tower and truck loading facility, air compressor/machine shop building, employee shower and locker room building, office building, and three trailers. This site is about 3/4-mile north of the shop area. The site slopes gently to the north and has plenty of room for additional development. There is a well and an elevated water tank.

- Building A1: 35 x 50± with 12-ft wall, concrete slab floor. There are two small additions attached which are about 12 x 12. It is currently being used as a maintenance shop for the underground equipment and electrical shop. The siding has been damaged on the end used by the maintenance operation. It looks bad but refurbishment is reasonable.

- Building A2: 45 x 80± with 15-ft wall, concrete slab floor. Half of the building is used to house the air compressors for the mine operation, the other half for vehicle and general maintenance work; there are truck doors on both sides of the maintenance area. This structure is the right size for car and small truck repair.

- Building A3: 40 x 80± with 15 foot wall, concrete slab floor with vinyl asbestos tile flooring, dropped ceiling. It is currently used for office space. An attached portion contains rest rooms and supply room.

- Building A4: One of the three trailers is used as shower and locker facilities for women employees and the other two for office space. The site has a three-pond sewage lagoon.

The site is located well and has a good view to the north and east and could have direct access to state route 279 which is about 1/4 mile west.

6.3.2 Area B: Shop Buildings

"This area is referred to as the Shop Area and is the major repair facility for the open mine equipment. The area is a short distance from state route 279, running from Laguna to Paguate. Developed facilities consist of eight major structures, three minor structures, one well and water tank, five large pressurized gas tanks, seven large petroleum storage tanks, one vehicle wash rack with settling pond and oil separator, and

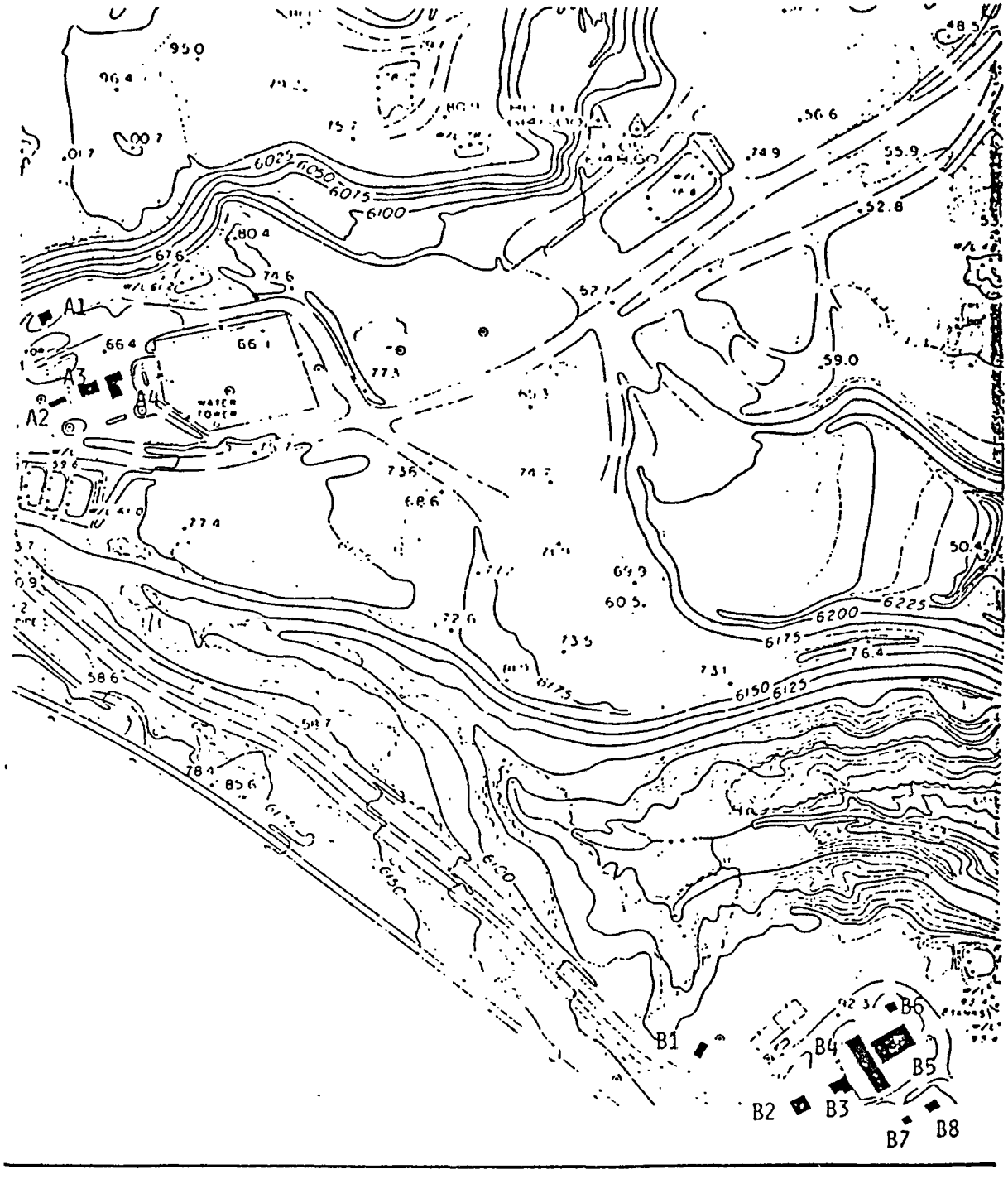

Figure 6-3. AREAS A AND B: MINE SITE

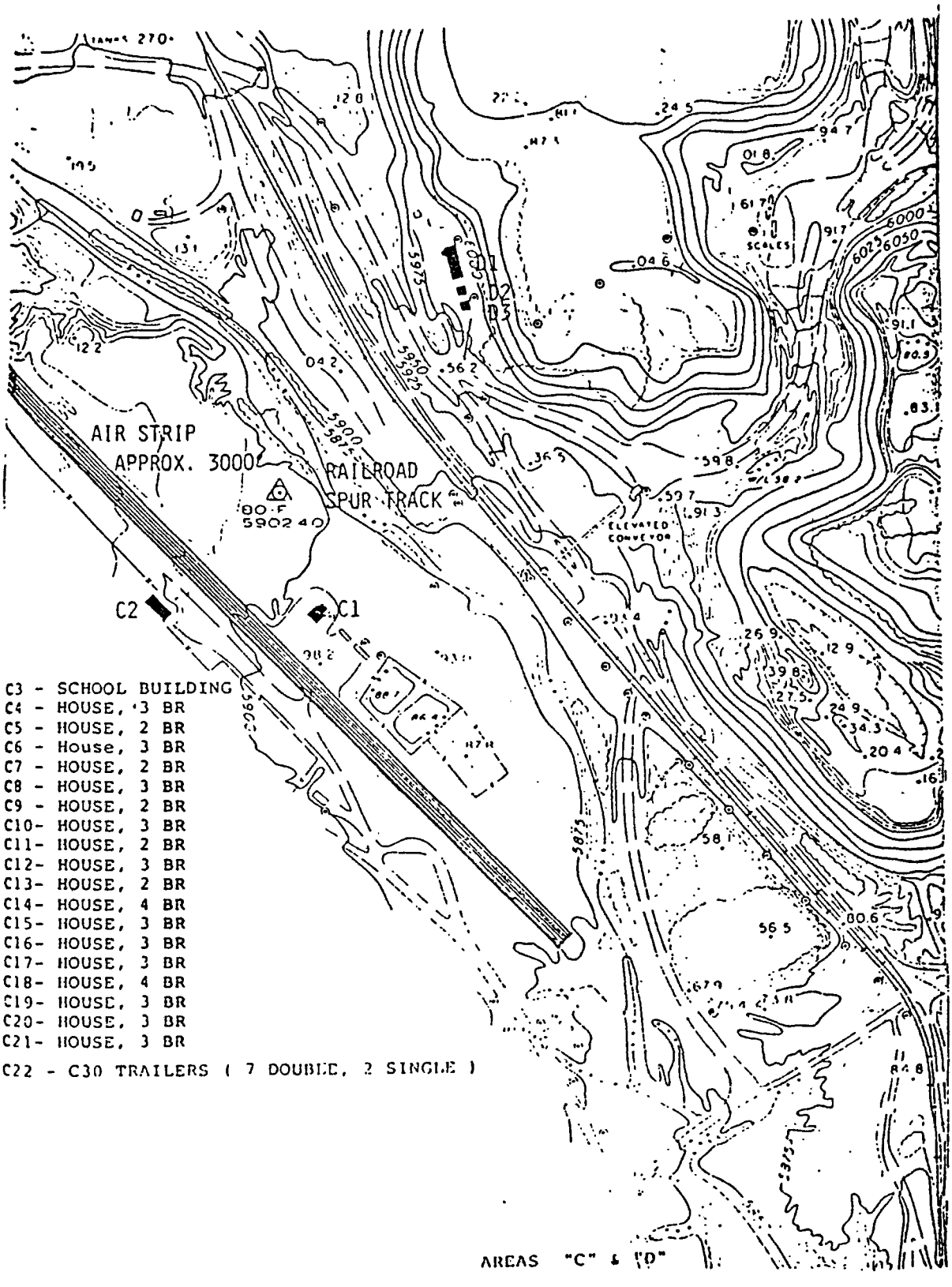

Figure 6-4. AREAS C AND D: MINE SITE

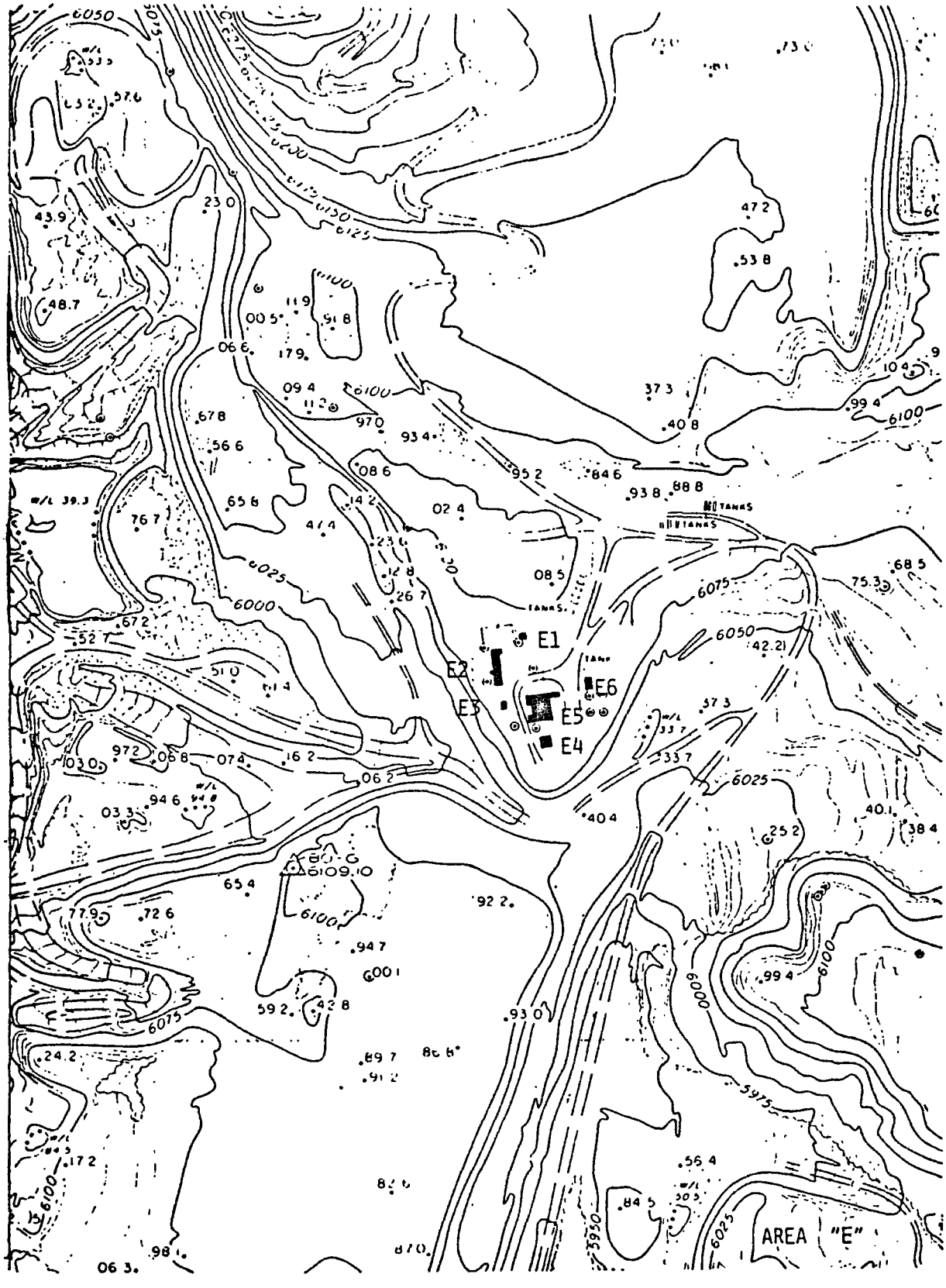

Figure 6-5. AREA E: MINE SITE

a three-pond sewage lagoon. The site is large with good storage area and drainage to the north.

"All of the buildings are steel construction with steel frame, siding, and roof. The floors are concrete slab on grade with the large shop floor being 12-inch with steel rails placed so the track crawler equipment will not damage the concrete. Heating in the shop areas is heated with gas unit heaters.

- Building B1: 40 x 60± with a 14-ft wall, truck doors each end, currently used as a wood working shop and has a small office.

- Building B: 50 x 70± with a 14-ft wall, truck door on one side, currently used as a equipment repair and electrical shop.

- Building B4: 35 x 65± with a 30-ft high bay, there is an attached 30 x 40± room with shed roof and 14-ft wall. This building currently serves as a welding shop and has a 10-ton bridge crane in the high bay area.

- Building B5: 80 x 110± with high bay 30-ft ceiling, two bridge cranes with 10-ton capacity, sound insulation has been sprayed on ceiling and walls, there is small office space on the west side with storage over. There are three 20 x 20 foot doors on the north and south walls, there is an attached structure on the east side that is 25 x 80± used for work space. The passage to building B4 is on the west side.

- Building B6: 30 x 30± with a 14-ft wall, 10 x 12 truck door on one side, bridge crane and a jib crane. Currently used as a machine shop.

- Building B7: 24 x 60± with a 12-ft wall, dropped ceiling, office space and large meeting room.

- Building B8; 24 x 30±, with a 12-ft wall, shower and locker room facility. Attached is a vehicle parking garage for four cars.

"The minor buildings mentioned are small metal structures about 12 x 12 in size; two are used for storage and one for a small paint shop. The structure used by the cleaning rack is housing the steam cleaning equipment. Associated with the cleaning rack is a settling pond and oil separator. Some petroleum tanks are being relocated and will have an oil spill containment berm around them."

6.3.3 Area D: Office Buildings

"This area is currently the open pit mine office area and consist of three quonset hut structures and two storage shacks. Two quonset huts are about 30-ft long and house office space and showers, the other hut is about 100-ft long and has office space in it. There is no well indicated for this site. Power branches off the lines going to Area "E" run under the airstrip and then overhead to the buildings.

6.3.4 Area E: Old Shop Buildings

"This area is the old shop area which has not been in use for some time. Building E2 is being used by the reclamation division for storage of their equipment and supplies. The site has a well and electricity.

- Buildings E1 and E3: small concrete block structures which were employee facilities, restrooms, showers, and locker rooms.
- Building E2: metal frame, single story, and in fair condition, approximate size is 30' x 100'.
- Building E4: a high bay metal buiding which is in rough condition. The central fixture around which everything was built is a large jib crane (approx. 10-ton capacity).
- Building E5: the largest building at the site, in dilapidated condition.
- Building E6: a small metal building, transformer stations are adjacent to E5 and E6."

6.3.5 Overview

"There are four areas containing industrial buidings on the mine site proper:

- Area A: P-10 site buildings
- Area B: shop buildings
- Area D: office buildings
- Area E: old shop buildings

The buildings in the first three areas are in good condition and are capable of being maintained in reusable condition prior to reclamation. The old shop building is generally in a state of disrepair."

6.4 RAIL SPUR

The architect's report is quoted. "Maintenance of the track and railbed centers on three factors; plant growth, insects and drainage problems. Most serious is drainage problems associated with plugged culverts. With heavy runoff and plugged culverts the wash over the tracks will destroy a railbed in very little time. In one area in particular where 6 culverts run under the railbed, the maintenance crews have cleared the culverts of sediment and debris a number of times. This has resulted in damaged pipes and large piles of sediment, both inlets and outlets remain partially blocked with the outlet side silted-in to where it prevents drainage from the inlet side. All culverts along the spur should be cleared of sediment and debris and then maintained on a monthly schedule with problem areas being checked during runoff periods. Plant growth and insect control can be accomplished with the application of insecticide and herbicides on a scheduled interval. The railroad ties and tressel members within three feet of earth should be

saturated with a creosote preservative (meeting AWPA Spec. P1-65) or a copper napthenate solution (meeting military specification no. Mil-W-18142, type A) and then treated by spraying annually to control insects and rot. Plant growth should be sprayed annually to prevent growth in the railbed."

6.5 HOUSING AND COMMUNITY FACILITIES

"This area has the housing units, school, training building, reclamation offices, airstrip and mine entrance and shop to an underground operation located in it (see figure 6-4).

- Building C1: this building was formerly an airplane hanger that has been converted into a training facility. An addition to the building houses shower and locker room facilities. The addition is constructed of concrete block while the old hanger portion is steel frame and siding. The interior has vinyl asbetos tile flooring, dropped ceiling, and gypsum wall board walls.

- Building C2: 45 x 80 with a 15-ft wall, vinyl flooring, dropped ceiling and partitions with plywood panels. The current use is for office space.

- Building C3: currently used as a school building for elementary grades. It has a tennis court and play area for the children. It is quite close to building C2 which is just south of the tennis courts.

- Buildings C4 thru C13: these houses are similar in design and are built on a slab on grade, which makes moving them very difficult and uneconomical. These houses are in good condition and can be quite acceptable. They are wood frame with asbestos shingle siding, low-rise roofs with hop mop and gravel. All have single car garages attached, some of which have been converted into storage space and recreation rooms.

- Buildings C14 thru C21: these houses are similar in design and have been built with a crawl space, which allows for ease in moving them.

- Building C22 thru C30: these are trailers, mostly double width, which could be moved easily. Might be better located with other trailers to form a regular trailer park situation which would allow for trailers owned by individuals to be moved in on a rental basis, forming the base for a tribal enterprise."

7.0 SUMMARY

The Pueblo of Laguna's economy and standard of living have changed dramatically over the past 30 years, largely due to the presence of the Anaconda Corporation's Jackpile Uranium Mine. The Pueblo's economic base during this period shifted from farming and herding to mining and manufacturing. Primarily due to mine employment, the Pueblo made significant gains in median income relative to the state of New Mexico. Although the Pueblo's median income is still 26% below the state-wide figure, the Pueblo's median income grew nearly four times faster than the state's from 1960 to 1970. Royalties paid to the tribe from the mine's production have been placed by the tribe in an investment portfolio, the interest from which provides the tribal government's annual operating revenues. However, with the recent announcement by Anaconda of an early closure of the Jackpile Mine, these gains and accomplishments may be jeopardized.

Over 20% of the Pueblo of Laguna's labor force was employed at the mine prior to the early closure annoucement in July 1980. Mine employment has since been eliminated. Many of those laid off took early retirement, others went into military service, and some found other employment. However, there is an even greater number who have not found reemployment. These individuals are currently living on unemployment insurance which, for a majority of the unemployed, expires in fall 1981, depending on the date of first collection.*

Employment opportunities in the energy field exist or are planned in the area and could absorb many of the Pueblo's unemployed, both mine layoffs and nonmine-related unemployed. However, lack of appropriate skills, long commuting time, relocation requirements, lower wages, uranium market uncertainties, and a reluctance for underground mining reduce reemployment potential.

The Pueblo plans to operate the Laguna Industrial Center at Mesita as a military Depot Overhaul Point. The depot would be owned and operated by the Pueblo of Laguna with interim management provided by Raytheon Corporation. Current plans are for the depot to begin hiring in late December 1981. Employment is scheduled to reach 400 workers, all Lagunas, by April 1983. This will greatly reduce the Pueblo's unemployment problem but not eliminate it. Wages at the depot will be significantly less than those paid by Anaconda.

Albuquerque's growing economy continues to attract an increasing number of Pueblo workers. Many of these workers, facing a 70-mile commute, chose to relocate to the Albuquerque area. Such emigration may threaten the Pueblo's culture and autonomy. Increases of either on-reservation employment opportunities or new housing constructed on the eastern edge of the reservation, near Rio Puerco, will tend to retain people on the reservation.

In light of recent federal budget cutbacks, the Pueblo cannot rely on federal assistance to the extent enjoyed in the past. Royalties paid to the Pueblo of Laguna from the Jackpile Mine have created an investment portfolio from which the tribe derives its operating income. To date, income from the portfolio's investments has been sufficient to meet tribal expenses; the principal of the portfolio has remained intact. After the

*Unemployment insurance benefits can be claimed for a maximum of 26 weeks in New Mexico.

Jackpile closure, the tribe will no longer receive royalty payments. However, pressure to use the portfolio to compensate for lost federal revenues could alter this policy.

The early closure of Anaconda's Jackpile Mine represents a significant impact on tribal employment and income. Employment opportunities in New Mexico exist, though many would require relocation of tribal residents off the reservation. The Military Overhaul Depot represents the greatest on-reservation employment opportunity, as well as being a potential income source for the tribe. The possible milling of uranium ore stockpiles on the Jackpile site could net the Pueblo as much as $68 million. However, other on-reservation employment opportunities are needed to offset the Jackpile Mine's closure. Grazing, agriculture, and reuse of mine site facilities are possible based on the baseline evaluation and depending on how reclamation is done. It is possible that reclamation could alleviate the reduced income and employment in the interim between the mine's closure and new developments such as the depot and the uranium milling project. The report on the "Socioeconomic Impacts of the Reclamation of the Jackpile Mine" addresses this possibility in more detail.

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APPENDIX A

LIST OF PERSONS INTERVIEWED

Ronald Antonio	Manager, Casa Blanca Chevron
Irene Brunson	Manager, Rio Puerco Restaurant
Richard Carter	Bartender, Big Jim's (Rio Puerco)
Rusty Erven	Manager, Rio Puerco Standard Station
William Estes	Manager, Midway Lounge (Budville)
Arne Fernandez	Manager, Laguna Pueblo Mart
John Garcia	Attendant, Rio Puerco Texaco
James Gilstrap	Manager, New Laguna Phillips 66
Raymond Goetting	Tribal Consultant, Pueblo of Laguna
Hans Gottlieb	Partner, Paraje Trading Company
Keith Gottlieb	Manager, Villa de Cubero
Wayne Granger	Division Manager, Law and Order, Pueblo of Laguna
Kenneth Marmon	Owner, Marmon Trading Post (Laguna)
Edward Michael	Owner, A.A. Michael (Bibo)
Pauline Michael	Manager A.A. Michael (Bibo)
Don Montoya	Executive Director, Pueblo of Laguna Community Services
Juanita Montoya	Manager, Smokehouse II (Laguna)
Dorothy Munter	Manager, Indian Trading Post (Rio Puerco)
Audrey Myers	Assistant Manager, Rio Puerco Stuckey's
Vera Peralta	Area Director, Employment Security Commission of New Mexico
Ronald Ray	Recreation Director, Pueblo of Laguna Community Services
Victor Sarracino	Manager, Division of Education, Pueblo of Laguna
H.D. Scott	Clerk, Scottie's Auto Parts (Budville)
James Sice	Acting Division Manager, Tribal Services
Neva Summer	Manager, Los Cerritos Trading Post
James Toya	Director, ACL Hospital

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